MarketNet: A Survivable Market-Based Architecture for Large-scale IS

Resource Access Layer (RAL)
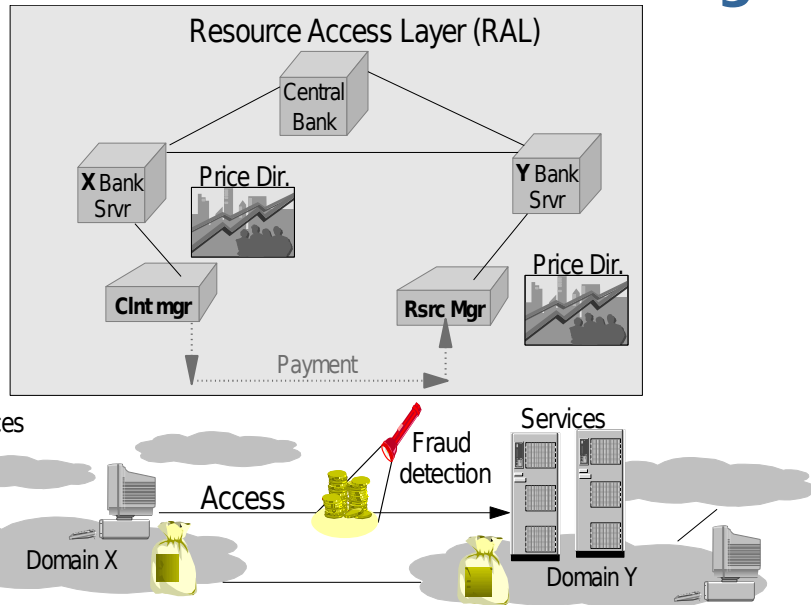
New Ideas

- Survivability through economic-based resource mgmt technologies
- Unified, scalable, resource-independnt access control via currency
   - Clients purchase access; domains use prices & currency availability to control access
- Establish quantifiable and tunable limits on the power of attackers
- Unified, automated intrusion monitoring & isolation of attack sources by monitoring currency flows
- Using supply & demand equilibrium to recover from resource loss due to failures/attacks

Impact

- New paradigms for scalable protection & survivability
- Develop, demonstrate, & export technologies for market-based survivable systems
   - Resource managers, clients, and protocols
   - Currency domains
   - Intrusion detection, isolation & handling
- Wide distribution of MarketNet software; industry collarboration
- Contributions of MarketNet protocols to the IETF Integrated Services and related groups

Schedule

Design bank srvr, resource mgrs/clients , & protocols Design price advertising/ adjustment mechanisms Simulations of the above	Prototype bank srvr resource mgrs/client mechanisms and protocols Simulation of currency domains	Develop Marketnet testbed Demonstrate survivability, intrusion detection & handling Measure performance
Jul 97 [Start] Jul 98	Jul 99	Jul 00

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